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NO. 5,

The Missouri Muhlenbergias.---III.

BY BENJAMIN FRANKLIN BUSH.

IOWA:

- Ames, *Ball* 113, August 5, 1896, M. B. G. Herb. No. 79950;
Ames, *Ball* 113, August 5, 1896, M. B. G. Herb. No. 79904;
Ames, *Hitchcock*, August, 1889, M. B. G. Herb. No. 79922;
Ames, *Hitchcock*, date not given, M. B. G. Herb. No. 79960;
Armstrong, *B. S.*, September, 1895, M. B. G. Herb. No. 79749
Armstrong, *Cratty*, August 21, 1897, M. B. G. Herb. No.
79910;
Dakota City, *Pammel*, August 8, 1896, M. B. G. Herb. No.
79951;
Iowa City, *Hitchcock*, August, 1888, M. B. G. Herb. No. 79911;
Ledyard, *Pammel* and *Cratty* 760, August 28, 1897, M. B. G.
Herb. No. 79921;
Ledyard, *Pammel* and *Cratty* 760, August 28, 1897, M. B. G.
Herb. No. 79925;
Ledyard, *Pammel* and *Cratty* 760, August 28, 1897, M. B. G.
Herb. No. 80106;
Ledyard, *Pammel* and *Cratty* 760, August 28, 1897;
Mount Pleasant, *Mills* 13, 1894, M. B. G. No. 79927;
Muscatine, *Mackenzie* 781, September 26, 1894;
Sioux City, *Wakefield*, August 30, 1887, M. B. G. Herb. No.
79949;
Tabor, *Pammel* 778, September 20, 1897, M. B. G. No. 79906;
Tabor, *Pammel* 778, September 20, 1897, M. B. G. Herb.
No. 79917;
Webster City, *Pammel* 274, June 15, 1895, M. B. G. Herb
No. 79948;

West Union, *Whitmere* 248, July 6, 1896, M. B. G. Herb. No. 79947;

Winterset, *Carver*, date not given, M. B. G. Herb. No. 79924.

WISCONSIN:

LaCrosse, *Hale*, 1861, M. B. G. Herb. No. 75629;

Mirror Lake, *Eggert*, August, 24, 1903, M. B. G. Herb. No. 82672;

Prairie du Chien, *Hale*, 1861, M. B. G. Herb. No. 75648;

St. Croix, *Hale*, M. B. G. Herb. No. 79956;

St. Croix, collector not given, but probably *Hale*, date not given, M. B. G. Herb. No. 79699.

MINNESOTA:

Detroit, *Seymour*, August 24, 1884, U. Ill. Herb.;

Lake Minnetonka, *Glatfelter*, October 3, 1898, M. B. G. Herb. No. 80089;

Sandy Lake, *Sandberg* 783, August 12, 1891, U. Ill. Herb.;

Spirit Lake, *Geyer*, September, 1838, M. B. G. Herb. No. 79685.

KANSAS:

Manhattan, *Norton*, September, 1893, M. B. G. Herb. No. 79926;

Manhattan, *Norton*, October 22, 1892, M. B. G. Herb. No. 79940;

Riley County, *Norton* 596, September 3, 1895, M. B. G. Herb. No. 79946.

NEBRASKA:

Along the Missouri to the Mountains, *Hayden*, July 8, 1854, M. B. G. Herb. No. 79681;

Fort Union, *Hayden*, 1855, M. B. G. Herb. No. 79684;

Fort Union, *Hayden*, date not given, M. B. G. Herb. No. 79964;

Nuckolls County, *Hedgcock* 348, July, 1886, M. B. G. Herb. No. 79807;

Nuckolls County, *Hedgcock*, July 3, 1899, M. B. G. Herb. No. 79806;

Omaha, *Eastman*, October 1, 1915, U. Ill. Herb.;

Thomas County, *Rydberg* 1762, September 13, 1893, U. Ill. Herb.

Without definite locality, *Hayden*, 1853-54, M. B. G. Herb. No. 82657.

DAKOTA:

Without definite locality, *Vasey*, 1888, M. B. G. Herb. No. 79912.

SOUTH DAKOTA:

Brookings, *White*, August 3, 1908, M. B. G. Herb. No. 79802;

Brookings, *White*, August 3, 1908, M. B. G. Herb. No. 79803.

NORTH DAKOTA:

Benson County, *Lunell*, August 5, 1906;

Benson County, *Lunell*, August 26, 1906, U. S. A. Herb.;

Fargo, *Seymour*, August 23, 1884, U. S. A. Herb.;

Grand Falls, *Brannon*, 52, July 1, 1886, M. B. G. Herb. No. 79905;

Lake Ibsen, *Lunell*, July 29, 1900, U. S. Herb. No. 746130.

ALABAMA:

Without definite locality, *Buckley*, date not given. M. B. G. Herb. No. 79955.

OKLAHOMA:

Snyder, *Eggert*, September 19, 1903, M. B. G. Herb. No. 82673;

Snyder, *Eggert*, September 18, 1903, M. B. G. Herb. No. 82674.

TEXAS:

Without definite locality, *Reverchon* 1677, October 25, 1874, M. B. G. Herb. No. 80108.

NEW MEXICO:

Animas Creek, *Metcalf*, 1142, July 13, 1904, M. B. G. Herb. No. 79801;

Animas Creek, *Metcalf*, 1142, July 13, 1904, M. B. G. Herb. No. 79824;

Dona Ana County, *Wootton* and *Standley* 3342, September 25, 1908;

Lucero's Ranch, *Ellis* 18, August 10, 1914, M. B. G. Herb. No. 760268;

Mesilla Park, *Standley*, September 29, 1906, M. B. G. Herb. No. 80103;

Picos, *Standley*, 4921, August 15, 1908, M. B. G. Herb. No. 79823;

River Mimbrres, *Bigelow*, November 5, 1851, M. B. G. Herb. No. 79966;

Without definite locality, *Fendler*, 965, 1847, M. B. G. Herb. No. 79682;

Without definite locality, *Fendler*, 966, 1847, M. B. G. Herb. No. 79683;

Without definite locality, *Fuller*, date not given, M. B. G. Herb. No. 78953;

Without definite locality, *Wright* 1888, 1851-52, M. B. G. Herb. No. 79680.

COLORADO:

Black Cañon, *Baker* 686, August 11, 1901, M. B. G. Herb. No. 79918;

Boulder Cañon, *Daniels* 526, August 21, 1906, M. B. G. Herb. No. 80077;

Brighton, *Johnston* 389A, September 15, 1908, M. B. G. Herb. No. 80102;

Cañon City, *Brandeggee* 3457, 1872, M. B. G. Herb. No. 79725;

Cañon City, *Brandeggee* 970, 1874, M. B. G. Herb. No. 79724;

Colorado Springs, *Chase* 5279, August 28 to September 5, 1908, U. S. A. Herb.;

Deer Run, *Baker* 910, August 21, 1901, M. B. G. Herb. No. 79919;

Denver, *Holm* September 14, 1889, U. S. A. Herb.;

Denver, *Holm*, August 6, 1898, U. S. A. Herb.;

Denver, *Holm*, July 15, 1899, M. B. G. Herb. No. 778843;

Fort Collins, *Pammel*, June 29, 1896, M. B. G. Herb. No. 79952;

Fort Collins, collector not given, October 2, 1896, M. B. G. Herb. No. 79945;

Manitou, *Glatfelter*, September 9, 1905, M. B. G. Herb. No. 80087;

Manitou, *Glatfelter*, September 9, 1905, M. B. G. Herb. No. 80121;

Manitou, *Letterman*, August 11, 1884, M. B. G. Herb. No. 772774;

Mountain Valley, *Brandeggee* 603, August, 1873, M. B. G. Herb. No. 79724;

Rocky Mountains, *Hall*, 1862, M. B. G. Herb. No. 79910.

WYOMING:

Sundance Mountain, *Chase* 5270, August 25, 1908, U. S. A. Herb.

MONTANA:

Billings, *Seymour*, September 4, 1884, U. S. A. Herb.

WASHINGTON:

Spokane County, *Suksdorf* 947, July 12, 1889, M. B. G. Herb.
No. 79959;

Without definite locality, *Tracy*, date not given, M. B. G. Herb.
No. 79916;

Without definite locality, collector and date not given, M. B. G.
Herb. No. 79928.

ARIZONA:

Nagle's Ranch, *Jones* 6056, September 20, 1894, M. B. G.
Herb. No. 80073;

St. John's, *Griffiths* 5182, August 9, 1903, U. S. A. Herb.

NEVADA:

Humboldt Pass, *Watson* 1288, September, 1868, M. B. G.
Herb. No. 79613.

UTAH:

Without definite locality, *Jones* 6033, 1894, M. B. G. Herb.
No. 79942.

7. MUHLENBERGIA COMMUTATA (Scribner) Bush, n. sp.

Muhlenbergia Mexicana commutata Scribner. *Rhodora* 9:
18. 1907.

"Panicles much longer and larger than those of *M. MEXICANA*;
lemmas awned; awns 4-10 mm. long; otherwise much as in *M.*
Mexicana."

New York, Delaware, Pennsylvania, Illinois and Minnesota,
Scribner, l. c.

Vermont and New York to South Dakota, south to Virginia,
Nebraska, Missouri and Oklahoma.

SPECIMENS EXAMINED:

VERMONT:

Rutland, *Kirk*, 974, September 9, 1913, U. S. Herb. No.
725390.

NEW YORK:

Fulton, *Rowlee*, August, 1888, M. B. G. Herb. No. 79739;
Oxford, *Coville*, August 29, 1884, U. S. Herb. No. 295258.

ONTARIO:

Gault, *Herriot*, 80, August 31, 1901, U. S. Herb. No. 952416;
Pelee Point, *Macoun* 26245, August 5, 1901, U. S. Herb. No.
952415.

NEW JERSEY:

Hoboken, collector and date not given, U. S. Herb. No. 746217.

PENNSYLVANIA:

Easton, *Garber*, 1890, U. S. Herb. No. 265677;

Susquehanna, *Kneucker* 315, August, 1901, U. S. Herb. No. 587196;

Susquehanna, *Porter*, August 8, 1895, U. S. Herb. No. 952387;

Susquehanna, *Kneucker* 315, August, 1901, M. B. G. Herb. No. 79740.

VIRGINIA:

Bedford County, *Curtiss*, September, 1873, U. S. Herb. No. 746218;

Bedford County, *Curtiss*, September, 1873, M. B. G. Herb. No. 79727.

ILLINOIS:

Peoria, *McDonald*, September, 1900, U. S. Herb. No. 746214;

Wady Petra, *Chase*, 1540, August 4, 1907, U. S. Herb. No. 645418;

Without definite locality, *Wolf*, 1882, U. S. Herb. No. 952377.

MISSOURI:

Gates, *Standley*, 9382, August 26, 1912, U. S. Herb. No. 688298, in part, the plant marked B on this sheet;

Whiteside, *Davis*, 1030, September 11, 1911, U. S. Herb. No. 673932.

MICHIGAN:

South Lockwood, *Dodge* 17, October 2, 1911, U. S. Herb. No. 952373.

IOWA:

Iowa Lake, *Beatty*, August 27, 1897, M. B. G. Herb. No. 75587;

Johnson County, *Snyder*, September, 1886, M. B. G. Herb. No. 75604.

Mount Pleasant, *Mills* 860, August, 1897, U. S. Herb. No. 328112.

MINNESOTA:

Fort Snelling, *Mearns* 749, September 1, 1891, U. S. Herb. No. 952392.

NEBRASKA:

Weeping Water, *Williams*, date not given, U. S. Herb. No. 952390.

SOUTH DAKOTA:

- Iroquois, collector not given, August 15, 1874, M. B. G. Herb. No. 79708;
 Tacoma Park, *Griffiths* 780, September 11, 1897, U. S. Herb. No. 79708;
 Tacoma Park, *Griffiths* 780, September 11, 1897, U. S. Herb. No. 952394.

OKLAHOMA:

- Verdigris, *Bush* 770, August 2, 1894, M. B. G. Herb. No. 79633;
 Verdigris, *Bush* 771, October 5, 1894, M. B. G. Herb. No. 79632.

8. MUHLENBURGIA GLABIFLORA Scribner, *Rhodora* 9: 22. 1917.

Culms terete, very minutely scabrous for a short distance below the nodes; panicles 2-6 cm. long, occasionally somewhat glomerate, the closely flowered short branches appressed, usually partly enclosed in the subtending leaf-sheaths; spikelets ovate-lanceolate; glumes lanceolate, acute or acuminate-pointed, subequal, a little shorter than, as long as, or a little longer than the lemma, scabrous on the keel excepting near the base; lemmas ovate or oblong, obtuse or submucronate-pointed, scabrous on the heel and lateral nerves above, otherwise smooth, no hair at the base; palea ovate-oblong, obtuse, equalling or a little shorter than the lemma.

Pennsylvania and Maryland, west to Illinois, Missouri and Texas
 SPECIMENS EXAMINED:

PENNSYLVANIA:

- Wissahickan Creek, *Smith* 84, August, U. S. Herb. No. 952386

MARYLAND:

- Hyattsville, *Scribner*, 1888, U. S. Herb. No. 746131.

ILLINOIS:

- Mascoutah, *Welsch*, 1862-1871, U. S. A. Herb.;
 Taylorville, *Andrews*, September 10, 1898, U. S. A. Herb.

MISSOURI:

- St. Louis, *Engelmann*, 1842, M. B. G. Herb. No. 79662.

9. MUHLENBURGIA MEXICANA (L.) Trin. Gram. Unifl. 189. 1824.

- Agrostis Mexicana* L. Mant. 1: 31. 1767.
Agrostis lateriflora Michx. Fl. Bor. Am. 1: 53. 1803.
Agrostis clandestina Sprengel, Mont. 1: 32. 1807.
Cinna Mexicana (L.) Beauv. Agrost. 32. 158. 1812.

- Trichochloa Mexicana* (L.) Grin. Fund. Agrost. 117. 1820.
Muhlenbergia clandestina (Spreng.) Trin. Gram. Unifl. 190. 1824.
Muhlenbergia polystachya Scribner, l. c. 1907, not of Mackenzie and Bush, 1902.
Muhlenbergia polystachya Hitchcock, Gray's New Manual, ed. 7. 127. 1908, not M. & B.
Muhlenbergia foliosa Nash; Britton and Brown, Illustrated Flora, 2nd ed. 185. 1913, not *M. foliosa* Trin. 1824.
Muhlenbergia Mexicana Trin., Bush in Flora of Jackson County Missouri, No. 862, 1885; Tracy in Flora of Missouri, No. 1642, 1886; Eggert in Catalogue of Plants of St. Louis, Missouri, 1891.
Muhlenbergia Mexicana (L.) Trin., Mackenzie and Bush in Manual of the Flora of Jackson County, Missouri, No. 2, 1902, Palmer in Catalogue of Plants of Jasper County, Missouri, Nos. 1388, 2686, 2797, 3463, 3467 and 3475, 1916.
Muhlenbergia Mexicana filiformis Vasey, Bush in Flora of Jackson County, Missouri, No. 863. 1885.
Muhlenbergia Mexicana filiformis Gray. Eggert in Catalogue of Plants of Saint Louis, Missouri, 1891.
Muhlenbergia Mexicana filiformis Muhl., Tracy in Flora of Missouri, No. 1644, 1886.
 N. B. to Ont. S. Dak. and southward, Hitchcock in Manual.
 N. B. to W. Ont., N. Car., Tenn., Nebr. and the Ind. Terr., Nash in Flora.
 N. B. to Wyo., S. Dak., N. Car., and Texas, Nash in Illustrated Flora.
 Massachusetts to North Dakota, south to Alabama and north-eastern Texas.
- SPECIMENS EXAMINED:
 MASSACHUSETTS:
 Granville, *Seymour* 2, September 15, 1913, M. B. G. Herb. No. 746678;
 Norquit, *Sturtevant*, August 31, 1888, M. B. G. Herb. No. 75588;
 South Warmington, *Sturtevant* September 11, 1890, M. B. G. Herb. No. 75577;
 South Warmington, *Sturtevant*, September 11, 1890, M. B. G. Herb. No. 75576;

- South Warmington, *Sturtevant*, September 17, 1890, M. B. G. Herb. No. 75575;
Walpole, *Greenman*, 3236, September 26, 1897, M. B. G. Herb. No. 742290.

CONNECTICUT:

- South Canaan, *Greenman* 3229, October 3, 1897, M. B. G. Herb. No. 742285.
Irvin Lakes, *Greenman* 2453, September 25, 1910, M. B. G. Herb. No. 738434.

NEW YORK:

- Bergen, collector not given, August 30, 1915, U. S. A. Herb.;
Buffalo, *Clinton* 9272, date not given, M. B. G. Herb. No. 75572;
Ithaca, *Pearce*, October 6, 1883, U. S. Herb. No. 152897;
Ithaca, *Treleare*, August 19, 1878, M. B. G. Herb. No. 75605;
Lebanon Springs, *Harrison*, September 25, 1890, U. S. Herb. No. 952387;
New York, *Coville*, September 24, 1884, U. S. Herb. No. 295257;
New York, *Gerard*, 1882, U. S. Herb. No. 952388;
Western New York, *Gray*, date not given, M. B. G. Herb. No. 75626.

ONTARIO:

- Fredericktown, *Fowler*, 1878, U. S. Herb. No. 259605;
Gault, *Herriott* 81, August 31, 1901, U. S. Herb. No. 952412.

NEW JERSEY:

- Sussex County, *Mackenzie* 2434, October 16, 1906, M. B. G. Herb. No. 75668.

DELAWARE:

- Centreville, *Commons*, October 5, 1873, M. B. G. Herb. No. 75570.

PENNSYLVANIA:

- Easton, *Porter*, September 2, 1895, U. S. Herb. No. 952385;
Germantown, *Scribner*, September 28, 1875, U. S. Herb. No. 746128;
Graeff's Landing, *Heller* 4815, September 14, 1901, U. S. Herb. No. 4406273;
Graeff's Landing, *Heller*, September 14, 1901, M. B. G. Herb. No. 75642;

Lancaster, *Heller* 4819, September 12, 1900, U. S. Herb. No. 406277;

Lancaster, *Small*, date not given, U. S. Herb. No. 746125;

Lancaster, *Small*, May, 1891, U. S. Herb. No. 298410;

Mountville, *Eby*, July 8, 1891, M. B. G. Herb. No. 75633;

Philadelphia, *Digyn*, date not given, M. B. G. Herb. No. 79975;

Philadelphia, *Scribner* 105, September, 1875, U. S. Herb. No. 746128;

Westchester, *Deane*, date not given, U. S. Herb. No. 746116;

Westchester, *Deane*, 1827, M. B. G. Herb. No. 82681;

Williamsport, *McMinn*, 1867, U. S. Herb. No. 952384.

MARYLAND:

Chevy Chase, *Mosher*, September 15, 1915, U. S. A. Herb.;

Great Falls of the Potomac, *Ball* 73, September 4, 1899, U. S. Herb. No. 952406;

Great Falls of the Potomac, *Ball* 73, September 4, 1898, M. B. G. Herb. No. 75589.

DISTRICT OF COLUMBIA:

Deanewood, *Chase* 3006 1-2, September 9, 1905, U. S. Herb. No. 746115;

Deanewood, *Chase* 3006 1-2, September 9, 1905, U. S. A. Herb.

High Island, *Dewey* 121, September 7, 1894, U. S. Herb. No. 491691;

High Island, *Dewey* 121, September 7, 1894, U. S. Herb. No. 490690;

Hyattsville, *Holm*, September 18, 1897, M. B. G. Herb. No. 779206;

Long Bridge, *Blanchard*, September 28, 1891, U. S. Herb. No. 311999;

Mount Pleasant, *Chase* 279, September 7, 1905, U. S. Herb. No. 952405;

Potomac Flats, *Ball* 712, October 20, 1906, M. B. G. Herb. No. 952407;

Washington, *Wheeler*, September 20, 1906, U. S. Herb. No. 952404.

OHIO:

Athens, *Ball*, September 21, 1902, U. S. Herb. No. 952382;

Central Ohio, *Sullivant*, date not given, M. G. G. Herb. No. 75624;

- Cincinnati, *Lloyd* 574, September 16, 1890, M. B. G. Herb. No. 75624;
Cleveland, *Greenman* 3249, July 29, 1896, M. B. G. Herb. No. 742082;
Liverpool, *Holm*, September 18, 1912, U. S. A. Herb.;
London, *Sharp* 6790, September, October, U. S. Herb. No. 952383;
Sheffield, *Ricksecker* 203, September 25, 1901, U. S. Herb. No. 217632;
St. Marys, *Kneucker* 203, September 25, 1901, U. S. Herb. No. 557160;
St. Marys, *Kneucker* 203, September 25, 1901, M. B. G. Herb. No. 75582.
- VIRGINIA:
Waterloo, *Pollard* 757, October 18, 1895, U. S. Herb. No. 307244;
Without definite locality, *Pech*, date not given, U. S. Herb. No. 952408.
- WEST VIRGINIA:
Aurora, *Steele* and *Steele*, August 30, 1898, U. S. Herb. No. 359404;
Goose Creek, *Donnell-Smith*, September 8, 1879, U. S. Herb. No. 490294;
Sweet Springs, *Steele* and *Steele* 317, September 15, 1903, M. B. G. Herb. No. 75583;
Sweet Springs, *Steele* and *Steele* 317, September 15, 1898, U. S. Herb. No. 490294.
- INDIANA:
Clark County, collector and date not given, U. S. Herb. No. 722787;
Lafayette, *Dorner* 222, September 15, 1901, U. S. Herb. No. 952381;
Russellville, *Grimes* 790, September 11, 1911, U. S. Herb. No. 952380;
Wells County, *Deam*, September 12, 1897.
- TENNESSEE:
Knoxville, *Ruth* 807, June, 1888, M. B. G. Herb. No. 75567.
- KENTUCKY:
Bell County, *Kearney* 366, September, 1893, U. S. Herb. No. 952418;

- Bell County, *Kearney* 366, September, 1893, U. S. Herb. No. 746132;
 Bell County, *Kearney* 366, September, 1893, U. S. Herb. No. 822929;
 Wasiota, *Kearney* 366, September, 1883, M. B. G. Herb. No. 75631;
 Without definite locality, *Short*, 1840, M. B. G. Herb. No. 75607.

ILLINOIS:

- Kankakee, *Crampton* 547, September 11, 1913, U. S. Herb. No. 750683;
 Mascontah, *Welsch*, 1867-1871, U. S. A. Herb.;
 Mount Carmel, *Schneck*, 1879, U. S. Herb. No. 952373;
 Mount Carmel, *Schneck*, October, 1879, U. S. A. Herb.;
 Mount Carmel, *Schneck*, September 25, 1881, U. S. A. Herb.;
 Mount Carmel, *Schneck*, September 8, 1879, U. S. A. Herb.;
 Peoria, *Brendel*, date not given, U. S. A. Herb.;
 Taylorville, *Andrews*, August 2, 1888, U. S. A. Herb.;
 Taylorville, *Andrews*, September 12, 1858, U. S. A. Herb.;
 Urbana, *Gates*, October 6, 1907, U. S. Herb. No. 645175;
 Urbana, *Gibbs*, September 26, 1898, U. S. A. Herb.;
 Urbana, *Gibbs*, September 27, 1888, U. S. A. Herb.;
 Wabash County, *Schneck*, September 18, 1880, U. S. A. Herb.;
 Wabash County *Schneck*, September 18, 1880. U. S. Herb. No. 746117;
 Wady Petra, *Chase* 200, August 31, 1888, U. S. Herb. No. 746123;
 Wady Petra, *Chase* 200, August 31, 1888, U. S. Herb. No. 952378;
 Wady Petra, *Chase* 1166, September 25, 1904, U. S. Herb. No. 952373;
 Wady Petra, *Chase* 1166, September 25, 1904, U. S. Herb. No. 580931;
 Wady Petra, *Chase* 1267, September 23, 1806, U. S. Herb. No. 952374;
 Without definite locality, *Engelmann*, August, 1883, M. B. G. Herb. No. 79660, the plant marked 1 on this sheet, but I can not be sure that the label cited belongs to the plant marked 1.

MISSOURI:

- Aberden, *Davis* 963, September 11, 1911, M. B. G. Herb. No. 709401;
Aberden, *Davis* September 24, 1911, M. B. G. Herb. No. 709375;
Allenton, *Letterman*, August, 1879, M. B. G. Herb. No. 772776;
Clarksville, *Davis* 1117, September 24, 1911, U. S. Herb. No. 673972;
Clarksville, *Davis*, September 24, 1911, M. B. G. Herb. No. 709316;
Clay County, *Mackenzie* 790, September 21, 1895, M. B. G. Herb. No. 75677;
Clay County, *Mackenzie* 945, September 21, 1895;
Courtney, *Bush* 1154, September 10, 1901, M. B. G. Herb. No. 75568;
Creve Coeur Lake, *Glatfelter* September 11, 1894, M. B. G. Herb. No. 75654;
Creve Coeur Lake, *Glatfelter*, September 17, 1900, M. B. G. Herb. No. 75655;
Creve Coeur Lake, *Kellogg* 29, September 25, 1901, U. S. Herb. No. 950197;
Dodson, *Hoffman* September 10, 1916;
Dodson, *Hoffman* September 10, 1916;
Dodson, *Mackenzie*, May 8, 1875, M. B. G. Herb. No. 75676;
Forest Park, *Glatfelter* 613, September 20, 1891, M. B. G. Herb. No. 75653;
Forest Park, *Glatfelter* 643, September 20, 1891, M. B. G. Herb. No. 75651;
Gates, *Standley* 9382, August 26, 1912, U. S. Herb. No. 688288, in part, the plant marked A on this sheet;
Hannibal, *Davis* 1106, September 19, 1911, M. B. G. Herb. No. 709121;
Hannibal, *Davis* 1106, September 19, 1911, U. S. Herb. No. 673964;
Hannibal, *Davis* 1410, October 18, 1911, M. B. G. Herb. No. 708745;
Jackson County, *Bush* 1726, September 14, 1890, M. B. G. Herb. No. 75673;

- Jackson County, *Bush* 1880, September 14, 1890, M. B. G. Herb. No. 75675;
Jackson County *Bush* September 27, 1893, M. B. G. Herb. No. 75678;
Jasper, *Palmer* 1388, September 12, 1909, M. B. G. Herb. No. 75670;
Jasper, *Palmer* 1388, September 12, 1909, M. B. G. Herb. No. 756904;
Jefferson Barracks, *Eggert* September 4, 1877, M. B. B. Herb. No. 739682;
Jefferson Barracks, *Eggert*, September 4, 1897, M. B. G. Herb. No. 75658;
Jefferson Barracks, *Eggert* September 4, 1877, M. B. G. Herb. No. 739940;
Kansas City, *Stigall* 49, October 20, 1902, M. B. G. Herb. No. 75672;
Lee's Summit, *Mackenzie* 419, September 9, 1901;
McDonald County, *Bush*, September 1, 1893, M. B. G. Herb. No. 75672;
Oakwood, *Davis* 130, October 6, 1911, M. B. G. Herb. No. 756896;
Scotland, *Palmer* 2686, September 12, 1909, M. B. G. Herb. No. 75652;
Scotland, *Palmer* 2686, September 12, 1909, M. B. G. Herb. No. 757605;
Shannon County, *Bush*, October 21, 1893, M. B. G. Herb. No. 75671;
Shannon County, *Bush*, October 21, 1893, M. B. G. Herb. No. 75673;
Sheffield, *Mackenzie* 563, October 18, 1901;
Sibley, *Mackenzie* 563, October 2, 1901;
Springfield, *Weller* 53, September 13, 1890, U. S. Herb. No. 950196;
St. Louis, *Eggert* 223a, October 7, 1897, U. S. Herb. No. 950195;
St. Louis, *Pammel*, October, 1886, M. B. G. Herb. No. 79335;
St. Louis County, *Eggert*, September 11, 1897, M. B. G. Herb. No. 75640;
St. Louis County, *Eggert*, September 11, 1877, M. B. G. Herb. No. 739939;

- St. Louis County, *Eggert*, September 11, 1877. M. B. G. Herb.
No. 739388;
St. Louis County, *Eggert*, September 11, 1877, M. B. G. Herb.
No. 75657;
St. Louis County, *Eggert*, September 11, 1877, M. B. G. Herb.
No. 75641;
Swan, *Bush* 460, September 24, 1899, M. B. G. Herb. No.
75574;
Swope Park, *Mackenzie* 437, September 13, 1901;
Turner, *Standley* 9851, September 5, 1912, U. S. Herb. No.
688766;
Webb City, *Palmer* 2797, September 29, 1909, M. B. G. Herb.
No. 75656;
Webb City, *Palmer* 2757, September 29, 1909, M. B. G. Herb.
No. 756902;
Webb City, *Palmer* 3463, September 17, 1911, U. S. A. Herb.;
Webb City, *Palmer* 3463, September 17, 1911, M. B. G. Herb.
No. 709108;
Webb City, *Palmer* 3463, September 17, 1911, M. B. G. Herb.
No. 756899;
Webb City, *Palmer* 3463, September 17, 1911, M. B. G. Herb.
No. 709021;
Webb City, *Palmer* 3463, September 17, 1911, M. B. G. Herb.
No. 756900;
Webb City, *Palmer* 3475, September 17, 1911, M. B. G. Herb.
No. 709006;
Webb City, *Palmer* 3475, September 17, 1911, M. B. G. Herb.
No. 756903;
Webb City, *Palmer* 3475, September 17, 1911, M. B. G. Herb.
No. 756901;
Whiteside, *Davis* 1030, September 11, 1911, M. B. G. Herb.
No. 709077;
Whiteside, *Davis* 1010, September 11, 1911, M. B. G. Herb.
No. 709228;
Whiteside, *Davis* 1011, September 11, 1911, U. S. A. Herb.;
Whiteside, *Davis* 1030, September 11, 1911, U. S. Herb. No.
673932;
Whiteside, *Davis* 1011, September 11, 1911, U. S. Herb. No.
673925;

Without definite locality, collector not given, August, 1881,
M. B. G. Herb. No. 75625.

NORTH CAROLINA:

Biltmore, *Biltmore Herbarium* 657b, September 12, 1898,
M. B. G. Herb. No. 75603;

Biltmore, *Biltmore Herbarium* 657b, September 12, 1898, U. S.
Herb. No. 335376;

Magnetic City, *Wetherby* 24, September 20, 1895, U. S. Herb.
No. 952410;

Mountains of North Carolina, *Boynton*, 1888, U. S. Herb.
No. 852411;

Without definite locality, *Boynton*, date not given, U. S. Herb.
No. 746129.

IOWA:

Amana, *Schadt* 657, September 21, 1897, M. B. G. Herb. No.
75601;

Carroll, *Simon* 1018, September 21, 1897, M. B. G. Herb. No.
75635;

Chariton, *Mallory* 799, October 2, 1897, U. S. Herb. No.
75634;

Dakota City, *Pammel* 211, August 8, 1896, M. B. G. Herb.
No. 79615;

De Witt, *Pammel* 1451, September 9, 1898, M. B. G. Herb. No.
75593;

Dixon, *Snyder* 734, September 21, 1897, M. B. G. Herb. No.
75602;

Iowa City, *Hitchcock*, 1889, M. B. G. Herb. No. 75584;

Iowa City, *Hitchcock*, date not given, M. B. G. Herb. No.
75622;

Iowa City, *Hitchcock*, date not given, U. S. Herb. No. 733277;

Iowa City, *Somes* 3868, September 9, 1909, U. S. Herb. No.
672490;

Mount Ayr, *Beard* 638, September 25, 1897, M. B. G. Herb.
No. 75595;

Mount Pleasant, *Mills*, 1894, M. B. G. Herb. No. 75620;

Mount Pleasant, *Mills*, 1894, U. S. Herb. No. 952397;

Mount Pleasant *Mills*, 1894, M. B. G. Herb. No. 75598;

Mount Pleasant, *Mills*, 1894, U. S. Herb. No. 952397;

Mount Pleasant, *Mills*, 1894, U. S. Herb. No. 952398;

Mount Pleasant, *Mills*, 1894, U. S. Herb. No. 952399;

- Mount Pleasant, *Mills* 17, 1894, M. B. G. Herb. No. 75599;
 Mount Pleasant, *Mills* 17, 1894, M. B. G. Herb. No. 75597;
 Mount Pleasant, *Mills* 860, 1897;
 Mount Pleasant, *Mills* 860, August, 1897, M. B. G. Herb.
 No. 75596;
 Mount Pleasant, *Mills* 860, August, 1897, M. B. G. Herb.
 No. 75600;
 Mount Pleasant, *Mills* 860, August, 1897, M. B. G. Herb.
 No. 75600;
 Mount Pleasant, *Mills* 860, August, 1897, M. B. G. Herb. No.
 75663;
 Muscatine, *Reppert*, September 6, 1887, M. B. G. Herb. No.
 75616;
 Sheldahl and Slater, *Pammel* 1465, September 17, 1898,
 M. B. G. Herb. No. 75591;
 Turin, *Pammel*, September 8, 1894, U. S. Herb. No. 746124.

MINNESOTA:

- Detroit, *Seymour*, August 22, 1884, U. S. A. Herb.;
 Fort Snelling, *Mearns* 771, August 31, 1891, U. S. Herb. No.
 952391;
 Houston County, *Freiburg*, July, 1912, M. B. G. Herb. No.
 763870;
 St. Cloud, *Campbell* 1877, U. S. Herb. No. 952393.

KANSAS:

- Cullison, *Norris* 218, September, 1887, M. B. G. Herb. No.
 79833;
 Manhattan, *Hitchcock* 3836, September 27, 1908, U. S. A. Herb.
 No. 952402;
 Manhattan, *Hitchcock* 3836, September 27, 1908, U. S. A. Herb.
 Manhattan, *Hitchcock* 3844, September 27, 1908, U. S. Herb.
 No. 952403;
 Manhattan, *Norton*, October 11, 1892, M. B. G. Herb. No.
 75608;
 Manhattan, *Novigh*, October 2, 1887, M. B. G. Herb. No.
 75609;
 McFarland, *Hitchcock* 7831, October 17, 1910, U. S. Herb.
 No. 952400;
 Riley County, *Norton* 592a, September 9, 1895, M. B. G. Herb.
 No. 75614;

Riley County, *Norton* 597a, September 9, 1895, U. S. Herb. No. 353373;
 Rockport, *Bartholomew*, September 12, 1889, M. B. G. Herb. No. 4767491.

NEBRASKA:

Omaha, *Eastman*, September 14, 1915, U. S. A. Herb.

SOUTH DAKOTA:

Oak Lake, *Griffiths* and *Schlosser* August, 1892, U. S. Herb. No. 210915;
 Pearl Creek, *Thornber*, August 15, 1894, M. B. G. Herb. No. 75659;
 Sioux Falls, *Thornber* August, 1882, M. B. G. Herb. No. 75632;
 Trent, *Ball* and *Ball*, September 26, 1903, U. S. Herb. No. 952395.

NORTH DAKOTA:

Fargo, *Waldron*; August 14, 1890, U. S. Herb. No. 952396;
 Fargo, *Waldron* and *Moons*, August 20, 1901, U. S. Herb. No. 406356;
 Pembina, *Havard* 3, date not given, U. S. Herb. No. 152896.

ALABAMA:

Without definite locality, *Buckley*, September, 1841, M. B. G. Herb. No. 79664.

ARKANSAS:

Fulton, *Bush* 980, September 19, 1900, M. B. G. Herb. No. 75588.

OKLAHOMA:

Ottawa, *Stevens* 2458, August 27, 1913, U. S. A. Herb.;
 Sapulpa, *Bush* 772, September 21, 1894, M. B. G. Herb. No. 75610;
 Sapulpa, *Bush* 1396, September 27, 1895, M. B. G. Herb. No. 75612;
 Stillwater, *Waugh*, September 6, 1893, M. B. G. Herb. No. 75611;
 Stillwater, *Waugh* 2146, September 27, 1893, M. B. G. Herb. No. 75613.

TEXAS:

Dallas, *Reverchon* 1054, October 1880, U. S. Herb. No. 822932, labelled *M. MEXICANA FILIFORMIS* by Reverchon, and *M. FOLIOSA AMBIGUA* by Hitchcock.

Dallas, *Reverchon* 2330, date not given, M. B. G. Herb. No. 82679;

Dallas, *Reverchon* 2330, date not given, M. B. G. Herb. No. 75538;

Dallas, *Reverchon* 2330, date not given, M. B. G. Herb. No. 75568;

Granbury, *Reverchon* 4110, September 7, 1903, M. B. G. Herb. No. 75664;

Without definite locality, *Reverchon* 1054, date not given, M. B. G. Herb. No. 75661.

10. MUHLENBERGIA FOLIOSA Trin. Gram. Unifl. 190. 1824.

Agrostis filiformis Willd. Enum. Hort. Berol. 1: 95. 1809,

Agrostis filiformis Sprengel 1802.

Agrostis foliosa hortulana R. & S. 2: 373. 1817.

Agrostis filiformis Muhl. Gram. 66. 1817, not *Agrostis filiformis* Sprengel 1802.

Trichochloa Coliosa Trin. Fund. Agrost. 117. 1820.

Cinna filiformis (Willd.) Link, Enum. Mort. Berol. 1: 70. 1821.

Agrostis lateriflora filiformis (Willd.) Torr. Fl. 1: 86. 1824.

Muhlenbergia Mexicana filiformis (Willd.) Scribner, Mem. Torr. Club 5: 36. 1894.

Muhlenbergia Mexicana of American authors in large part, not Trinius 1824.

Muhlenbergia Mexicana Nash in part in Illustrated Flora, not of Trinins 1824.

Muhlenbergia ambigua Hitchcock in part in Manual, not M. AMBIGUA Torrey 1843.

Me. to Ont. S. Dak. and southward, Hitchcock in Manual. Not recognized by Nash in Flora.

Not recognized by Nash in Illustrated Flora.

Maine and Quebec, westward to North Dakota and Wyoming, southward to North Carolina and Arizona.

SPECIMENS EXAMINED:

MAINE:

Auburn, *Merrill* 13, August, 1898, U. S. Herb. No. 952483;

Bangor, *Knight* 3, August 7, 1904, U. S. Herb. No. 952474;

Bradley, *Briggs* 10, September, 1891, U. S. Herb. No. 952479;

Brownfield, *Merrill* 18, August 24, 1896, U. S. Herb. No. 952484;

Cumberland, *Chamberlain* 453, September 6, 1902, U. S. Herb. No. 746194;

Dover, *Fernald* 526, September, 1891, U. S. Herb. No. 952480;
Foxcraft, *Fernald* 523, September 5, 1894, U. S. Herb. No. 952482;

Foxcraft, *Fernald* 523, September 5, 1894, U. S. Herb. No. 952482;

Madison, *Fernald* 529, August 1, 1892, U. S. Herb. No. 952481;

Orono, *Fernald* 524 September 13, 1890, U. S. Herb. No. 952473;

Orono, *Harvey and Harvey* 1270, June 1890, U. S. Herb. No. 952511;

St. Francis, *Fernald* 170, August 18, 1893, M. B. G. Herb. No. 75630;

St. Francis, *Fernald* 170, August 18, 1893, U. S. Herb. No. 204116;

St. Francis, *Fernald* 170, August 18, 1893, U. S. Herb. No. 822926.

QUEBEC:

Montreal, *Mohr*, August 10, 1883, U. S. Herb. No. 722799.

NEW HAMPSHIRE:

Manchester, *Batchelder* September 25, 1910, U. S. Herb. No. 952476;

Peterboro, *Deane and Batchelder*, August 30, 1910, U. S. Herb. No. 952476;

Peterboro, *Deane and Batchelder*, August 30, 1910, U. S. Herb. No. 952477;

Wolfsborough, *Conant*, September, 1881, U. S. Herb. No. 952475.

VERMONT:

Burlington, *Jones* 1678, September 8, 1892, U. S. Herb. No. 647813;

Rutland, *Kirk* 1032, August 15, 1913, U. S. Herb. No. 725801;

Rutland, *Kirk* 1033, August 15, 1913, U. S. Herb. No. 725802.

MASSACHUSETTS:

Essex County, *Conant*, 1879, U. S. Herb. No. 952472;

Framingham, *Smith*, September, 1894, M. B. G. Herb. No. 79914;

South Hadley, *Cook*, 1887, U. S. Herb. No. 277074;

Southampton, collector and date not given, M. B. G. Herb.
No. 785517.

RHODE ISLAND:

Limestone Rock, *Greenman* 2528, October 2, 1910, M. B. G.
Herb. No. 740428.

Providence, *Olney* September, U. S. Herb. No. 852471.

NEW YORK:

Hinckley; *Mabeur* 3348, August 7, 1911, U. S. Herb. No.
952469;

Ithaca, collector not given, October 26, 1892, M. B. G. Herb.
No. 75643;

Ithaca, collector not given, August 25, 1893, M. B. G. Herb.
No. 75644;

Ithaca, *Rowles*, September 4, 1894, U. S. Herb. No. 952468;

Lake George, *Vasey* 1882, U. S. Herb. No. 952452;

Lebanon Springs, *Harrison*, September 19, 1890, U. S. Herb.
No. 952470;

Oxford, *Coville*, September 11, 1885, U. S. Herb. No. 295252;

Pennyan, collector and date not given, but probably *Sartwell*,
M. B. G. Herb. No. 75606;

Wayne County, *Mankensen*, October 8, 1869, U. S. Herb. No.
822927;

Western New York, *Gray*, date not given, M. B. G. Herb. No.
75643;

Western New York, *Gray*, date not given, M. B. G. Herb. No.
75623;

Western New York, *Gray*, date not given, M. B. G. Herb. No.
75627.

CANADA:

Without definite locality, *Shepard* date not given, M. B. G.
Herb. No. 75628.

ONTARIO:

Birch Island, *Macoun* 26246, U. S. Herb. No. 952486;

Gault, *Herriott* 83, September 6, 1901, U. S. Herb. No. 952490;

Gault, *Merriott*, September 5, 1898, U. S. Herb. No. 952489;

Johnstone's Harbor, *Macoun* 26248, U. S. Herb. No. 952487;

Point Edward, *Macoun* 26247, U. S. Herb. No. 952485;

Point Pelee, *Dodge* 19, September 17, 1911, U. S. Herb. No.
952491;

Rockcliffe, *Macoun* 86177, August 10, 1911, M. B. G. Herb.
No. 744523.